Applicant: Friedrich BOECKING

Docket No. R.305745

Preliminary Amdt.

**AMENDMENTS TO THE CLAIMS:** 

This listing of claims will replace all prior versions, and listings, of claims in the

application:

**Listing of Claims:** 

Claims 1 & 2. (Canceled)

3. (New) In a fuel injection system having an injection valve, a line supplying fuel at high

pressure to the injection valve in operation, a control valve which controls the pressure in a

control chamber of the injection valve that communicates with the aforementioned line, the

control valve including movable valve part actuatable by an actuator via a hydraulic coupler

that has two pistons, cooperating with a coupler volume of the coupler, the seat of the

movable valve part has an inside cross-sectional area f3, with means for filling the coupler

volume via guide gaps of the pistons with fuel that is under pressure,

the improvement wherein the pistons are located parallel to one another with one

inside the other; the system also comprising a booster chamber located on the ends of the

pistons toward the actuator a filling chamber in the interior of the outer piston provided, the

filling chamber communicating with the aforementioned line; and rod means mechanically

coupling a cross-sectional area f4 of the one piston to the actuator the rod having a cross-

sectional area f5; the other piston, having a piston area f2 and actuating the control valve via a

rod having a cross-sectional area that is smaller than f2; the direction of the closing motion of

the movable valve part matching the direction of fuel flowing out of the control chamber, so

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that the control valve is at least partially force-balanced because of the pressure acting on the

further piston in the booster chamber.

4. (New) The fuel injection system according to claim 3, further comprising a further filling

chamber, which communicates with the aforementioned line and is in communication with

the coupler via a guide gap of the rod at least in one region of the rod, connecting the actuator

to the hydraulic coupler, at a distance from the chamber of the coupler that is closest to the

actuator.